ASUS® TUA266

JumperFree™ 133MHz FSB

DDR/SDR SDRAM AGP Pro/4X

Socket 370 Motherboard

USER'S MANUAL

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FCC & DOC COMPLIANCE

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! Any changes or modifications to this product not expressly approved by the manufacturer could void any assurances of safety or performance and could result in violation of Part 15 of the FCC Rules.

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Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

1. INTRODUCTION

1.1 How This Manual Is Organized

This manual is divided into the following sections:

1. INTRODUCTION	Manual information and checklist
2. FEATURES	Production information and specifications
3. HARDWARE SETUP	Instructions on setting up the motherboard.
4. BIOS SETUP	Instructions on setting up the BIOS
5. SOFTWARE SETUP	Instructions on setting up the included software
6. SOFTWARE REFERENCE	Reference material for the included software
7. APPENDIX	Optional items and general reference

1.2 Item Checklist

Check that your package is complete. If you discover damaged or missing items, contact your retailer.

Package Contents

- ☑ (1) ASUS Motherboard
- ☑ (1) 40-pin 80-conductor ribbon cable for internal UltraDMA/66 or UltraDMA/33 IDE drives
- ☑ (1) Ribbon cable for two 3.5” floppy disk drives
- ☑ (1) ASUS Support CD with drivers and utilities
- ☑ (1) Bag of spare jumper caps
- ☑ (1) ASUS 2-port USB Connector Set
- ☑ (1) User’s Manual

Optional Item

- ☐ ASUS IrDA-compliant infrared module

2. FEATURES

2.1 ASUS TUA266 Motherboard

Powered by the latest Intel® processors, the TUA266 motherboard bundles select features and compatible interfaces to deliver value and flexibility.

2.1.1 Specifications

- **Processor Support**

Intel Pentium® III	100/133MHz FSB	Tualatin™ core	FC-PGA2
Intel Pentium® III	100/133MHz FSB	Coppermine core	FC-PGA
Intel Celeron™	100/66MHz FSB	Coppermine core	FC-PGA

- **North Bridge System Chipset:** Features the ALi M1651 North Bridge that provides optimum architecture design to support Intel Pentium III/Celeron CPUs with 133/100 FSB, a memory interface for both 66/100/133 SDR and 200/266 DDR, and AGP Pro/4X interface solution.
- **South Bridge System Chipset:** ALi M1535D+ South Bridge chipset provides a high integration bridge between PCI bus and peripheral bus. The chipset comes with built-in advanced Super I/O controller and power management feature.
- **DDR/SDR Memory Support:** Equipped with two Double Data Rate (DDR) Dual Inline Memory Module (DIMM) sockets to support up to 2GB of memory using the latest high-speed 2.5V PC1600/PC2100 SDRAM modules, and three Single Data Rate (SDR) sockets for a maximum of 3GB memory using 3.3V PC133/100 SDRAM.
- **JumperFree™ Mode:** Allows processor settings and easy overclocking of frequency and Vcore voltage through BIOS setup when the JumperFree™ mode is enabled. Easy-to-use DIP switches come with the motherboard board to allow manual adjustment of the processor external/internal frequency.
- **UltraDMA/100 Support:** Comes with an onboard PCI Bus Master IDE controller with two connectors that support four IDE devices on two channels. Supports UltraDMA/100, UltraDMA/66, UltraDMA/33, PIO Modes 3 & 4, Bus Master IDE DMA Mode 2, and Enhanced IDE devices, such as DVD-ROM, CD-ROM, CD-R/RW, LS-120, and Tape Backup drives.
- **AGP Pro Slot:** Comes with an Accelerated Graphics Port (AGP) Pro slot that supports high performance AGP cards targeted at 3D graphical applications supporting 133MHz 4X mode. The slot is backward compatible with AGP 4X/2X cards.
- **Wake-On-LAN:** Supports Wake-On-LAN activity through a WOL connector or an optional ASUS PCI-L101 10/100 Fast Ethernet PCI card.
- **Wake-On-Ring:** Supports Wake-On-Ring activity through a PCI modem card that supports a WOR connector.

2. FEATURES

- **PC Health Monitoring:** Provides an easy way to test and manage system status information, such as CPU and system voltages, temperatures, and fan status through the onboard hardware ASUS ASIC and the bundled ASUS PC Probe.
- **SMBus:** Features the System Management Bus interface used to physically transport commands and information between SMBus devices.
- **PCI Expansion Slots:** Provides five 32-bit PCI (Rev. 2.2) expansion slots that support Bus Master PCI cards, such as SCSI or LAN cards, with 133MB/s maximum throughput.
- **AMR Slot:** Supports an Audio Modem Riser (AMR) slot that accommodates a specially designed audio/modem card.
- **Advanced Super I/O:** Provides two high-speed UART compatible serial ports and one parallel port with EPP and ECP capabilities. UART2 can also be directed from COM2 to the Infrared Module for wireless connections. The Super I/O controller built-in the M1535D+ South Bridge also supports a floppy disk drive, PS/2 keyboard, and PS/2 mouse.
- **Smart BIOS:** 2Mb firmware provides Vcore and CPU/DDR SDRAM frequency adjustments, boot block write protection, and HD/SCSI/MO/ZIP/CD/Floppy boot selection.
- **Enhanced ACPI and Anti-Boot Virus Protection:** Programmable BIOS (Flash EEPROM) that offers enhanced ACPI for Windows 98/2000/ME compatibility, built-in firmware-based virus protection, and autodetection of most devices for a virtual automatic setup.
- **IrDA:** Supports an optional infrared port module for wireless interface.
- **Desktop Management Interface (DMI):** Supports DMI through BIOS that allows hardware to communicate within a standard protocol and create a higher level of compatibility. (Requires DMI-enabled components.)
- **Onboard LED:** Comes with a power LED that lights up if there is any standby power on the motherboard. This LED acts as a reminder to turn off the system power before plugging or unplugging devices to prevent damage to the motherboard, peripherals, and other system components.
- **Onboard Audio (optional):** Audio models come with the four-channel C-Media CMI8738 PCI audio controller that supports the legacy audio SB PRO™, FM emulator/DLS wavetable music synthesis, and HRTF 3D positional audio functions.
- **Easy Connectivity and System Information Access:** Supports an optional ASUS iPanel, an easy-to-access box with system diagnostic display area, system status LEDs, USB ports, and hot keys. The AFPANEL connector on the motherboard accommodates the ASUS iPanel.

2.1.2 Performance

- **ACPI Ready: A**dvanced **C**onfiguration **P**ower **I**nterface (ACPI) provides more Energy Saving Features for operating systems that support OS Direct Power Management (OSPM) functionality. With these features employed in the OS, PCs can be ready around the clock but comply with energy saving standards. To fully utilize the ACPI benefits, use an ACPI-supported OS such as Windows 98.
- **PC'99 Compliant:** Both the BIOS and hardware levels of ASUS smart series motherboards are PC'99 compliant. The new PC'99 requirements for systems and components are based on the following high-level goals: Support for Plug-n-Play compatibility and power management for configuring and managing all system components, and 32-bit device drivers and installation procedures for Windows 95/98/NT. Color-coded connectors and descriptive icons make identification easy as required by PC'99.
- **High-Speed Data Transfer Interface:** Support for UltraDMA/100 through the onboard IDE bus master controller triples the UltraDMA/33 burst transfer rate. UltraDMA/100 is backward compatible with DMA/66, DMA/33, and other existing DMA devices to save the need to upgrade current EIDE/IDE drives. (UltraDMA/66 requires a 40-pin 80-conductor cable).
- **Concurrent PCI:** Concurrent PCI allows multiple PCI transfers from PCI master busses to the memory and processor.

2.1.3 Intelligence

- **Auto Fan Off:** The system fans powers off automatically even in sleep mode. This function reduces both energy consumption and system noise, and is an important feature in implementing silent PC systems.
- **Dual Function Power Button:** Pushing the power button for less than 4 seconds when the system is in the working state places the system into one of two states: sleep mode or soft-off mode, depending on the BIOS or OS setting (see **PWR Button < 4 Secs** in ***4.5 Power Menu***). When the power button is pressed for more than 4 seconds, the system enters the soft-off mode regardless of the BIOS setting.
- **Fan Status Monitoring and Alarm:** To prevent system overheat and system damage, the CPU and system fans can be monitored for RPM and failure. All fans are set for its normal RPM range and alarm thresholds.
- **Power LED (requires ACPI OS support):** The power LED indicates the system status.
- **Remote Ring-On (requires modem):** This allows a computer to be turned on remotely through an internal or external modem. With this benefit on-hand, users can access vital information from their computers anywhere.
- **System Resources Alert:** Today's operating systems such as Windows 98/ME and Windows NT/2000, require much more memory and hard drive space to present enormous user interfaces and run large applications. The system resource monitor warns the user before the system resources are used up to prevent possible application crashes. Suggestions provide the user some information on managing their limited resources more efficiently.
- **Temperature Monitoring and Alert:** CPU temperature is monitored by the ASUS ASIC through the CPU's internal thermal diode (on Pentium III and Celeron) to prevent system overheat and system damage.
- **Voltage Monitoring and Alert:** System voltage levels are monitored to ensure stable voltage to critical motherboard components. Voltage specifications are more critical for future processors, so monitoring is necessary to ensure proper system configuration and management.
- **Chassis Intrusion Detection:** Supports chassis-intrusion monitoring through the ASUS ASIC. A chassis intrusion event is kept in memory on battery power for more protection.

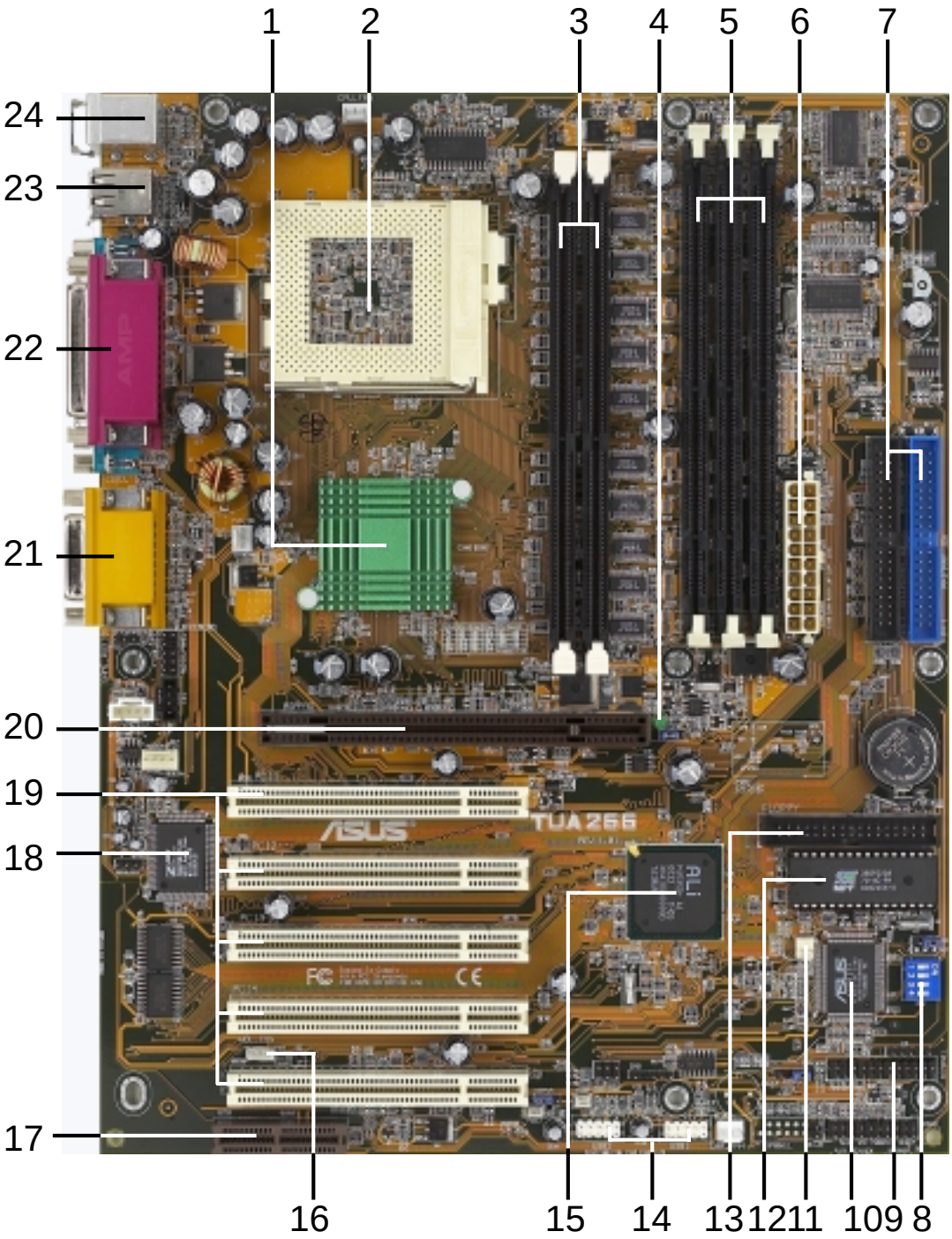
2.2 Motherboard Components

See opposite page for locations.

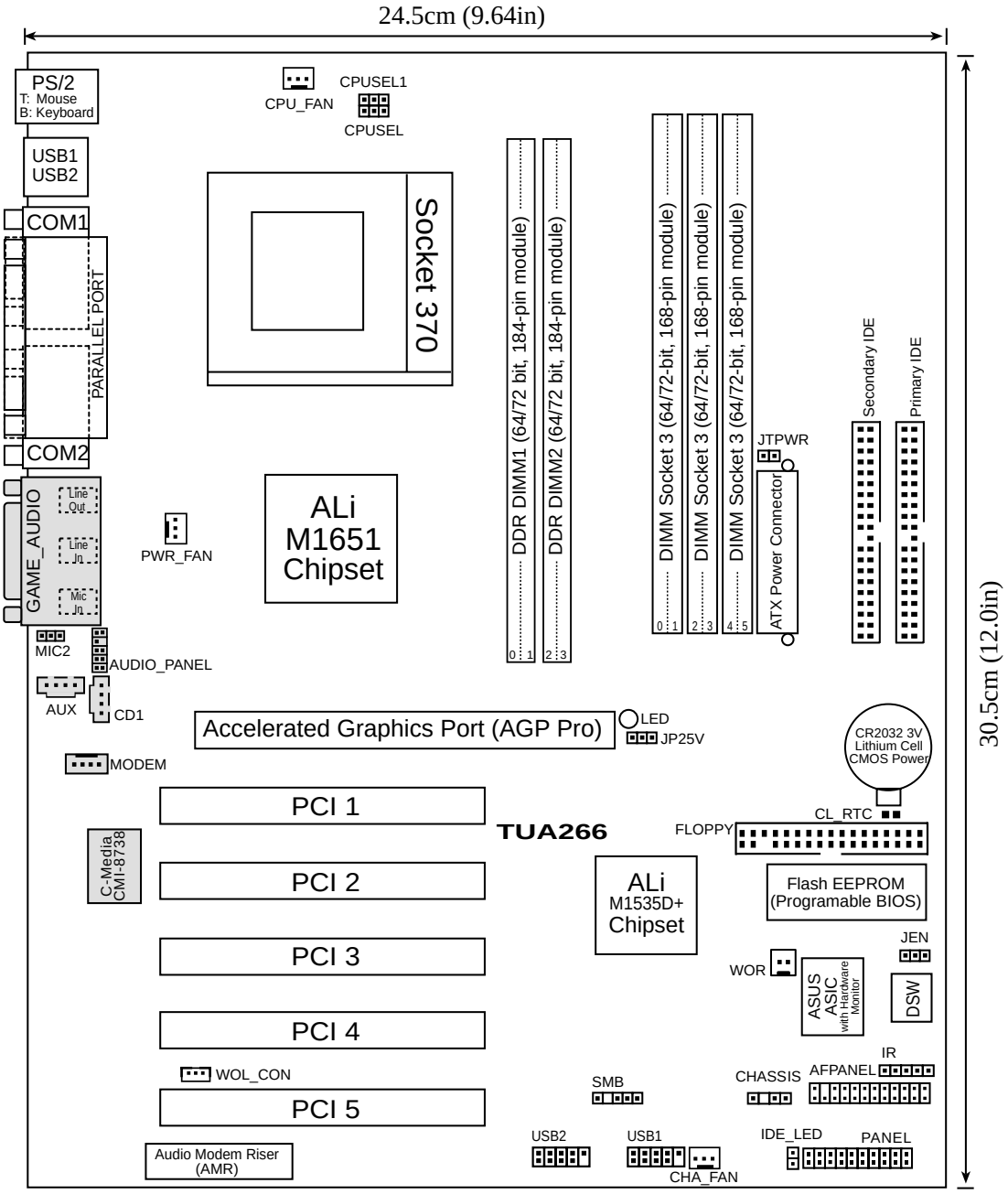
		Location
Processor Support	Socket 370 for Pentium III Coppermine Processors	**2**
	Feature Setting DIP Switches	**8**
Chipsets	ALi M1651 North Bridge	**1**
	Ali M1535D+ South Bridge	**15**
	2Mbit Programmable Flash EEPROM	**12**
Main Memory	Maximum 3GB support	
	2 DDR DIMM Sockets	**3**
	3 SDR DIMM Sockets	**5**
Expansion Slots	5 PCI Slots	**19**
	1 Accelerated Graphics Port (AGP) Pro/4X Slot	**20**
	1 Audio Modem Riser	**17**
System I/O	1 Floppy Disk Drive Connector	**13**
	2 IDE Connectors (UltraDMA/100 Support)	**7**
	1 ASUS iPanel Connector	**9**
	1 Parallel Port	**(Top) 22**
	2 Serial Ports (COM1/COM2)	**(Bottom) 22**
	USB Connectors (Port 0 & Port 1)	**23**
	USB Connectors (Ports 2/3/4/5)	**14**
	1 PS/2 Mouse Connector	**(Top) 24**
	1 PS/2 Keyboard Connector	**(Bottom) 24**
Hardware Monitoring	System Voltage Monitoring (integrated in ASUS ASIC)	**10**
	3 Fan Power and Speed Monitoring Connectors	
Special Features	Onboard LED	**4**
	Wake-On-LAN Connector	**16**
	Wake-On-Ring Connector	**11**
Audio Features	(on audio models only)	
	CMI8738 Audio Controller	**18**
	1 Game/MIDI Port	**(Top) 21**
	1 Line Out Connector	**(Bottom, left) 21**
	1 Line In Connector	**(Bottom, center) 21**
	1 Microphone Connector	**(Bottom, right) 21**
Power	ATX Power Supply Connector	**6**
Form Factor	ATX	

2. FEATURES

2.2.1 Component Locations



3.1 Motherboard Layout



NOTE: The C-Media CMI8738 audio chipset, external GAME/AUDIO connectors, and internal audio connectors are optional components, and present in audio models only. The components are grayed in the above motherboard layout.

3. HARDWARE SETUP

3.2 Layout Contents

Motherboard Settings

1) JEN p. 18 JumperFree Mode Setting (Disable/Enable)
2) DIP_SW 1–4 p. 19 CPU External Frequency Selection
3) JP25V p. 19 SDRAM Voltage Selection
4) CPUSEL/CPUSEL1 p. 20 CPU Selection
5) CLRTC p. 20 Clear RTC RAM

Expansion Slots/Sockets

1) DDR DIMM 1/2 p. 21 System Memory Support
   SDR DIMM 1/2/3
2) Socket 370 p. 23 CPU Support
3) PCI 1/2/3/4/5 p. 25 32-bit PCI Bus Expansion Slots
4) AGP Pro p. 27 Accelerated Graphics Port Slot
5) AMR Slot p. 28 Audio Modem Riser Slot

External Connectors

1) PS2KBMS p. 29 PS/2 Mouse Port (6-pin female)
2) PS2KBMS p. 29 PS/2 Keyboard Port (6-pin female)
3) USB p. 29 Universal Serial Bus Ports 1 & 2 (two 4-pin female)
4) PRINTER p. 30 Parallel Port (25-pin female)
5) COM1/COM2 p. 30 Serial Ports (9-pin /10-1 pin male)
6) GAME_AUDIO (Top) p. 30 Game/MIDI Port (15-pin female)
7) GAME_AUDIO (Bottom) p. 31 Audio Connectors (1/8” jacks)

Internal Connectors

1) IDELED p. 32 IDE Activity LED (2-pin)
2) FLOPPY p. 32 Floppy Disk Drive Connector (34-pin)
3) PRIMARY IDE p. 33 IDE Connectors (Two 40-1 pin)
   SECONDARY IDE
4) WOL_CON p. 34 Wake-On-LAN Connector (3-pin)
5) WOR p. 34 Wake-On-Ring Connector (2-pin)
6) CPU/PWR/CHA_FAN p. 35 CPU, Power, and Chassis Fan Connectors (four 3-pin)
7) USB1/USB2 p. 35 USB Headers (10-1 pin)
8) IR p. 36 Standard Infrared Module Connector (5-pin)
9) CHASSIS p. 36 Chassis Intrusion Lead (2-pin)
10) ATXPWR p. 37 ATX Power Supply Connector (20-pin)
11) SMB p. 37 SMBus Connector (5-1 pin)
12) AFPANEL p. 38 ASUS iPanel Connector (24-1 pin)
13) AUDIO_PANEL p. 38 Audio Panel Connector (10-1 pin)

14) CD/AUX/MODEM	p. 39	Internal Audio Connectors (4-1 pin)
15) MIC2	p. 39	Internal Microphone Connector (3-pin)
16) JTPWR	p. 40	Power Supply Thermal Sensor (2-pin)
17) PWR.LED (PANEL)	p. 41	System Power LED Lead (3-pin)
18) SPEAKER (PANEL)	p. 41	System Warning Speaker Lead (4-pin)
19) MSG.LED (PANEL)	p. 41	System Message LED Lead (2-pin)
20) SMI (PANEL)	p. 41	System Management Interrupt Lead (2-pin)
21) PWR.SW (PANEL)	p. 41	ATX / Soft-Off Switch Lead (2-pin)
22) RESET (PANEL)	p. 41	Reset Switch Lead (2-pin)

3.3 Hardware Setup Procedure

Complete the following steps before using your computer:

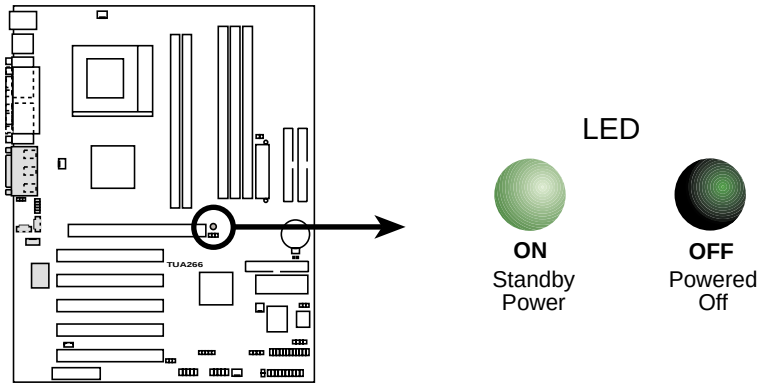
1. **Check motherboard settings**
2. **Install memory modules**
3. **Install the Central Processing Unit (CPU)**
4. **Install Expansion Cards**
5. **Connect ribbon cables, panel wires, and power supply cables**
6. **Configure the BIOS parameter settings**

3.4 Motherboard Settings

This section tells you how to change motherboard function settings through the switches and/or jumpers.

WARNING! Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To avoid damaging them due to static electricity, follow these precautions whenever you work on your computer.

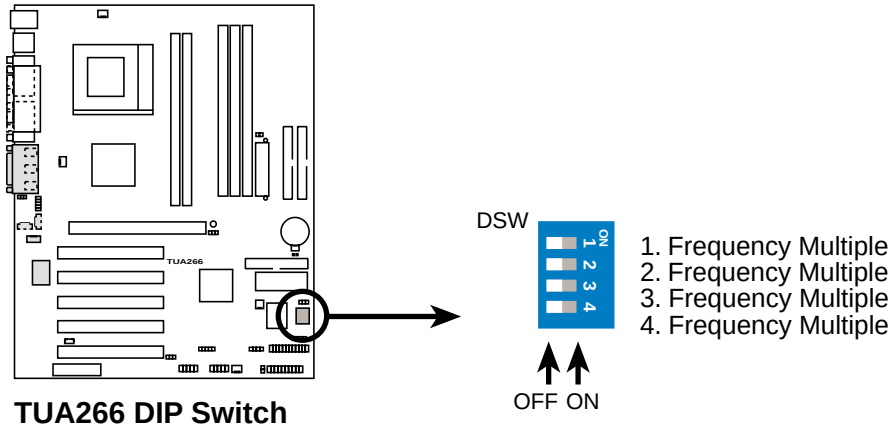
1. Unplug the computer when working on the internal components.
2. Use a grounded wrist strap or touch a safely grounded object or to a metal object, such as the power supply case, before handling computer components.
3. Hold components by the edges and try not to touch the IC chips on them.
4. Whenever you uninstall any component, place the components on a grounded antistatic pad or in the bag that came with the components.
5. **Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply.** Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.
   (**TIP:** When lit, the onboard LED indicates that the system is in suspend or soft-off mode, not powered OFF. See illustration below.)



TUA266 Onboard LED

Motherboard Frequency Settings (DIP Switches)

The motherboard frequency is adjusted through the DIP switches. The white block represents the switch's position. The illustration below shows all the switches in the OFF position.

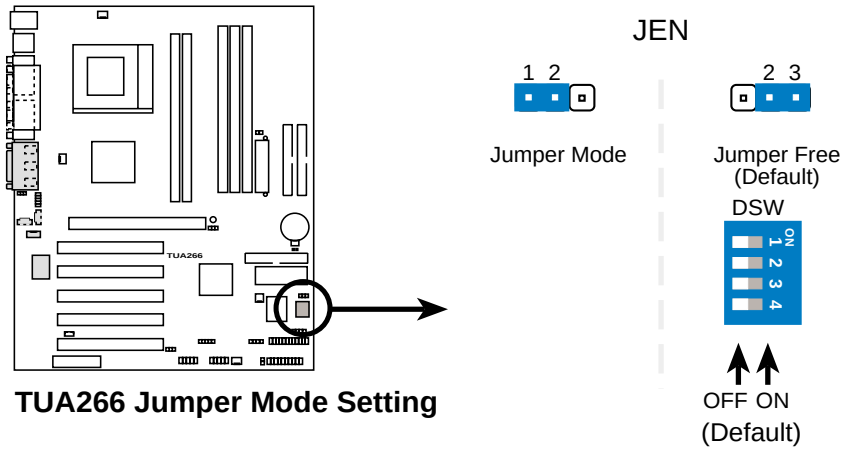


TUA266 DIP Switch

1) JumperFree™ Mode (JEN)

This jumper allows you to enable or disable the JumperFree™ mode. The JumperFree™ mode allows processor settings to be made through the BIOS setup (see ***4.4 Advanced Menu***).

Setting	**JEN**
Enable (JumperFree)	[2-3] (default)
Disable (Jumper Mode)	[1-2]

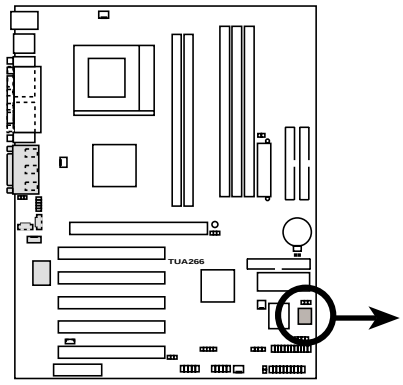


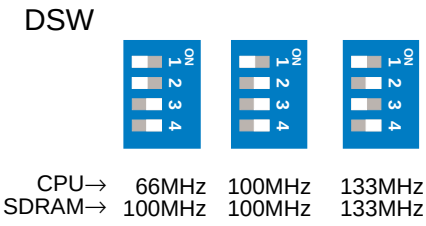
TUA266 Jumper Mode Setting

NOTE: In JumperFree™ mode, set all DIP switches (DSW) to OFF.

2) CPU External Frequency Selection (DIP_SW Switches 1–4)

This option tells the clock generator what frequency to send to the CPU and SDRAM. This allows the selection of the CPU's *External* frequency (or *BUS Clock*). The BUS Clock multiplied by the Frequency Multiple equals the CPU's *Internal* frequency (the advertised CPU speed).



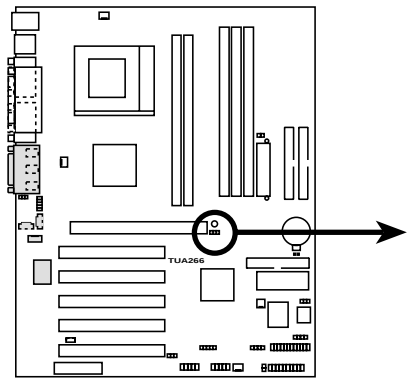


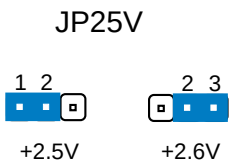
TUA266 CPU External Frequency Selection

WARNING! Set the CPU frequency only to the recommended settings. Frequencies other than the recommended CPU bus frequencies are not guaranteed to be stable. Overclocking the processor is not recommended. It may result in a slower speed.

3) SDRAM Voltage Selection (JP25V)

This jumper allows you to select the specific voltage supplied to the DDR DIMMs for overclocking. The setting 1-2 allows for +2.5V, while setting 2-3 allows for +2.6V. The default setting is 2.5V.



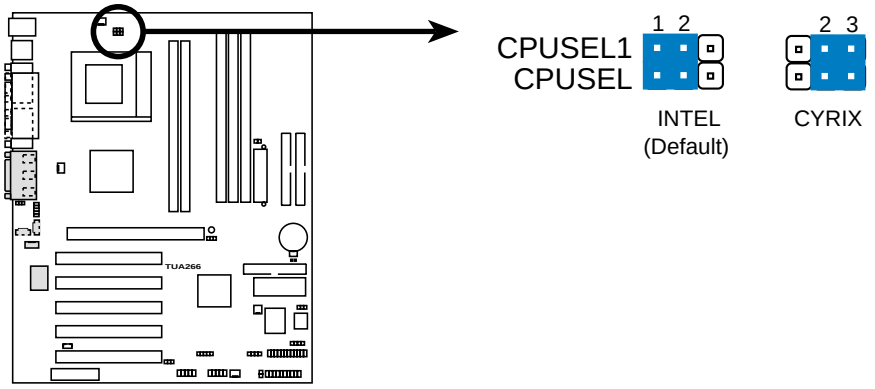


TUA266 JP25V

WARNING! Using a higher voltage may help when overclocking but may result in shortening the computer components life. It is receommended that you keep this jumper to its default setting.

4) CPU Selection (CPUSEL, CPUSEL1)

These jumpers allow you to select the CPU type. The default setting for both jumpers is 1-2 to select Intel CPUs.



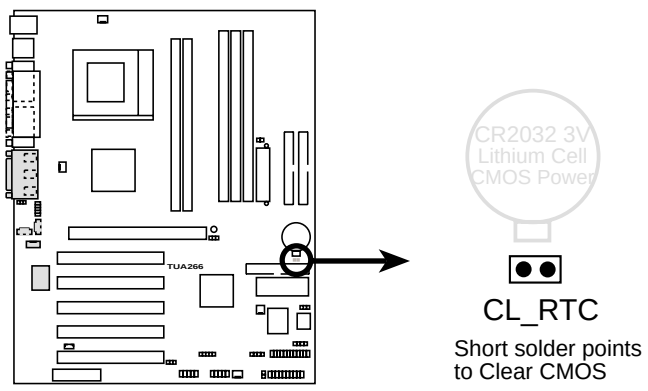
TUA266 CPU Selection

5) Clear RTC RAM (CLRTC)

These solder points allow you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The RAM data in CMOS, that include system setup information such as system passwords, is powered by the onboard button cell battery.

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Remove the battery.
3. Short the solder points.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.



TUA266 Clear RTC RAM

3.5 System Memory

This motherboard supports either Double Data Rate (DDR) and Single Date Rate (SDR) Dual Inline Memory Modules (DIMMs).

Two DDR DIMM sockets are available for 2.5V (power level) DDR Synchronous Dynamic Random Access Memory (DDR SDRAM) of 64, 128, 256, 512MB, or 1GB densities for a system memory configuration up to 2GB.

Three SDR DIMM sockets are also onboard for 3.3V unbuffered SDRAM of 64, 128, 256, 512MB, or 1GB densities for a maximum system memory of 3GB.

WARNING! Do not mix DDR DIMMs and SDR DIMMs. Mixed configurations do not work on this motherboard.

Install memory in any combination as follows:

DIMM Location	184-pin DIMM (DDR)		Total Memory
Socket 1 (Rows 0&1)	64MB, 128MB, 256MB, 512MB, 1GB	x1	
Socket 2 (Rows 2&3)	64MB, 128MB, 256MB, 512MB, 1GB	x1	
Total System Memory Using DDR DIMMs (Max. 2GB)=			

DIMM Location	168-pin DIMM (SDR)		Total Memory
Socket 1 (Rows 0&1)	64MB, 128MB, 256MB, 512MB, 1GB	x1	
Socket 2 (Rows 2&3)	64MB, 128MB, 256MB, 512MB, 1GB	x1	
Socket 3 (Rows 4&5)	64MB, 128MB, 256MB, 512MB, 1GB	x1	
Total System Memory Using SDR DIMMs (Max. 3GB) =			

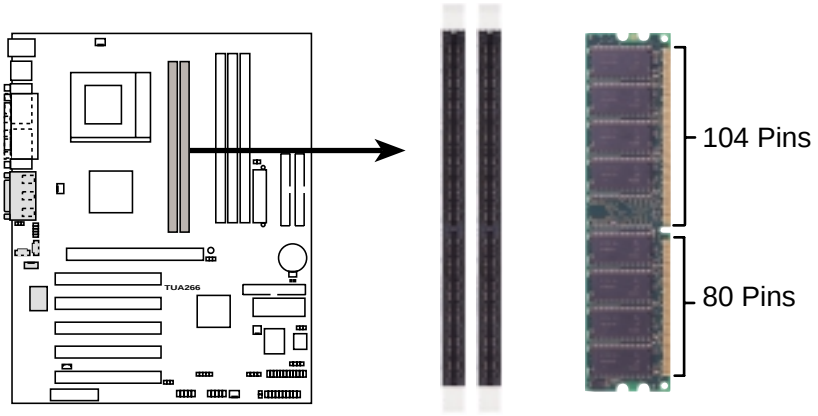
3.5.1 General DIMM Notes

- **DIMMs that have more than 18 chips are not supported on this motherboard.**
- **For the system CPU bus to operate 200MHz/266MHz, use PC1600-/PC2100-compliant DDR DIMMs.**
- ASUS motherboards support Serial Presence Detect (SPD) DIMMs. This is the memory of choice for best performance vs. stability.
- BIOS shows SDRAM memory on bootup screen.

3.5.2 Memory Installation

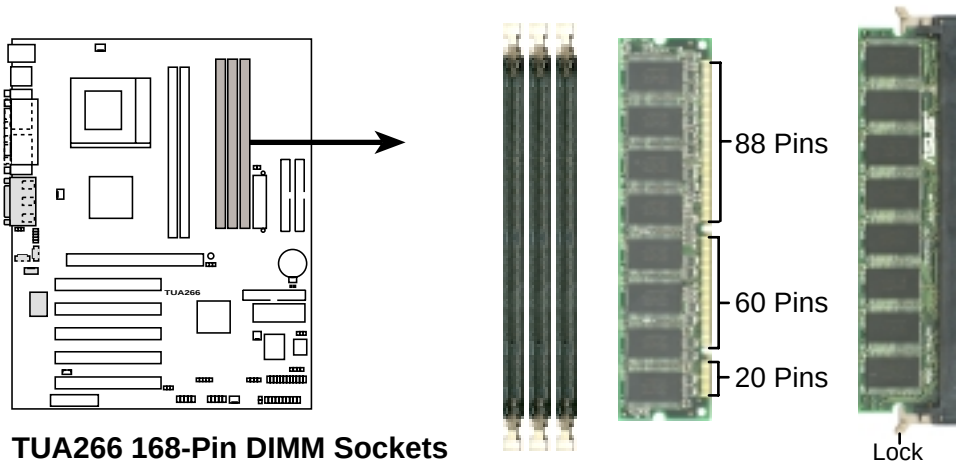
WARNING! Make sure that you unplug the power supply when adding or removing memory modules or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

A 184-pin DDR SDRAM DIMM has a single notch near the center. The number of pins are different on either side of the notch so the module only fits in one direction. Insert a DDR DIMM into the DDR socket as shown.



TUA266 184-Pin DDR DIMM Sockets

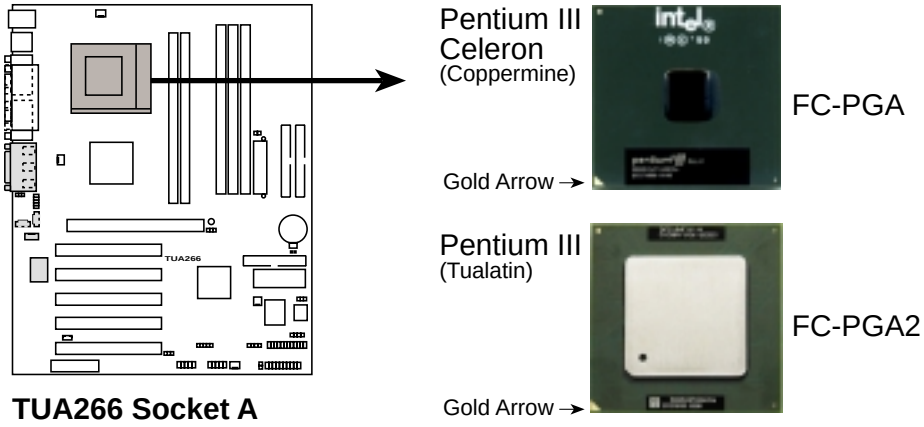
A 168-pin SDR SDRAM DIMM has two notches. This feature differentiates an SDR DIMM from a DDR DIMM. The SDR DIMM notches match the breaks on the DIMM socket so the module only fits in one direction. Insert an SDR DIMM into the SDR socket as shown.



TUA266 168-Pin DIMM Sockets

3.6 Central Processing Unit (CPU)

The motherboard comes with a ZIF Socket for the supported CPUs listed in section ***2.1.1 Specifications***. The following illustration shows the CPU socket location on the motherboard and the correct CPU orientation.



TUA266 Socket A

Note in the illustration that CPUs have marks (usually a notch or a gold mark on one corner) to help you identify the proper orientation and enable you to correctly install a CPU. It is important that you match the marked corner of the CPU with the corresponding corner on the socket so as not to damage the CPU pins.

The CPU picture above is for reference only. Usually, when you buy a CPU, the heatsink and fan are already attached to the CPU. If a heatsink and fan did not come with the package, make sure you obtain one before installing the CPU.

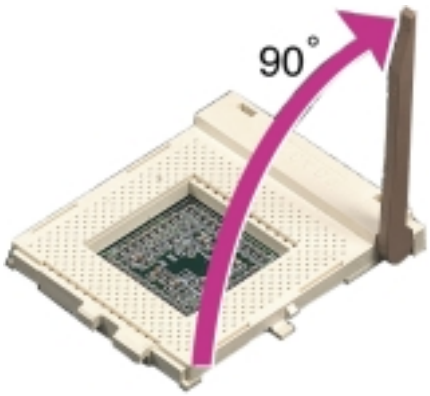
WARNING! You must install the proper heatsink and fan to the CPU. Failure to do so will cause the CPU to overheat and may damage both the CPU and the motherboard. Install an auxillary fan, if necessary.

CAUTION! Be careful not to scrape the motherboard when mounting/unmounting a clamp-style processor fan to avoid damaging the motherboard.

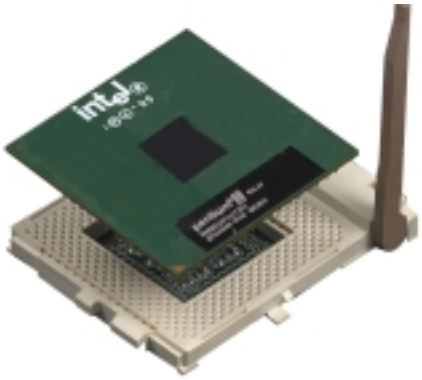
Proceed to the next section for the steps on how to properly install a CPU.

3.6.1 CPU Installation

Follow these steps to install a CPU.



1. Locate the ZIF socket on the motherboard.
2. Unlock the socket by pressing the lever sideways then lifting it up to a 90°-100° angle.



3. Position the CPU above the socket such that its notched or marked corner matches the socket corner near the end of the lever, while making sure that the CPU is parallel to the socket.
4. Carefully insert the CPU into the socket until it fits in place.

CAUTION! The CPU fits only in one orientation. Do not force the CPU into the socket to prevent bending the pins and damaging the CPU. If the CPU does not fit completely, check its orientation or check for bent pins.

5. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the socket indicating that it is locked.
6. Attach the heatsink and fan to the CPU, if they were not pre-installed by the vendor. Refer to the installation instructions that came with the heatsink and fan.

NOTE: Do not forget to set the correct Bus Frequency and Multiple (frequency multiple setting is available only on unlocked processors) for the processor to avoid start-up problems.

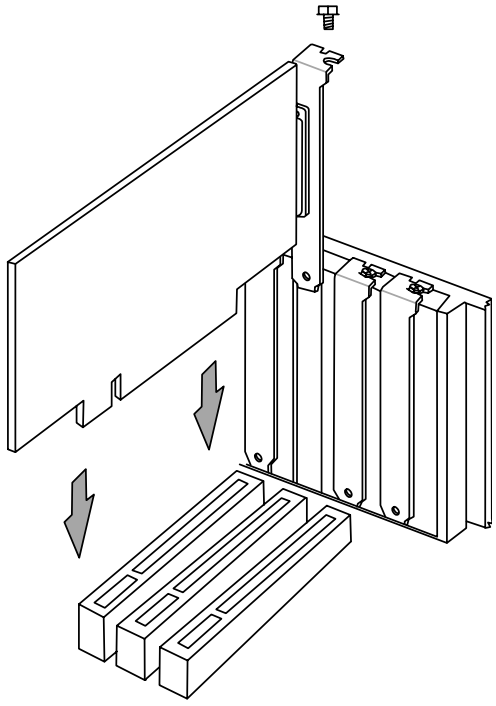
3.7 Expansion Cards

In the future, you may need to install expansion cards. The motherboard has five PCI expansion slots to support these cards. Follow the steps in the next section when installing expansion cards.

WARNING! Unplug the system power cord when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the motherboard and expansion cards.

3.7.1 Installing an Expansion Card

1. Read the documentation that comes with the expansion card and make any necessary hardware settings for the card before installing it.
2. Remove the system unit cover and the bracket plate on the slot you intend to use. Keep the screw for later use.
3. Align the card connectors with the slot and press firmly until the card fits in place.
4. Secure the card to the slot with the screw you removed earlier.
5. Replace the system cover.
6. Change the necessary BIOS settings, if any.
   (see section ***4.4.3 PCI Configuration*** to change the settings.)
7. Install the necessary software drivers for the expansion card.



3.7.2 Assigning IRQs for Expansion Cards

Some expansion cards need an IRQ to operate. Generally, an IRQ must be exclusively assigned to one use. In a standard design, there are 16 IRQs available but most of them are already in use, leaving 6 IRQs free for expansion cards. If your motherboard has **PCI** audio onboard, an additional IRQ will be used. If your motherboard also has **MIDI** enabled, another IRQ will be used, leaving 4 IRQs free.

IMPORTANT: If using PCI cards on shared slots, make sure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments. Conflicts arise between the two PCI groups that will make the system unstable or cards inoperable.

The following table lists the default IRQ assignments for standard PC devices. Use this table when configuring your system and for resolving IRQ conflicts.

Standard Interrupt Assignments

IRQ	Priority	Standard Function
0	1	System Timer
1	2	Keyboard Controller
2	N/A	Programmable Interrupt
3*	11	Communications Port (COM2)
4*	12	Communications Port (COM1)
5*	13	Sound Card (sometimes LPT2)
6	14	Floppy Disk Controller
7*	15	Printer Port (LPT1)
8	3	System CMOS/Real Time Clock
9*	4	ACPI Mode when used
10*	5	IRQ Holder for PCI Steering
11*	6	IRQ Holder for PCI Steering
12*	7	PS/2 Compatible Mouse Port
13	8	Numeric Data Processor
14*	9	Primary IDE Channel
15*	10	Secondary IDE Channel

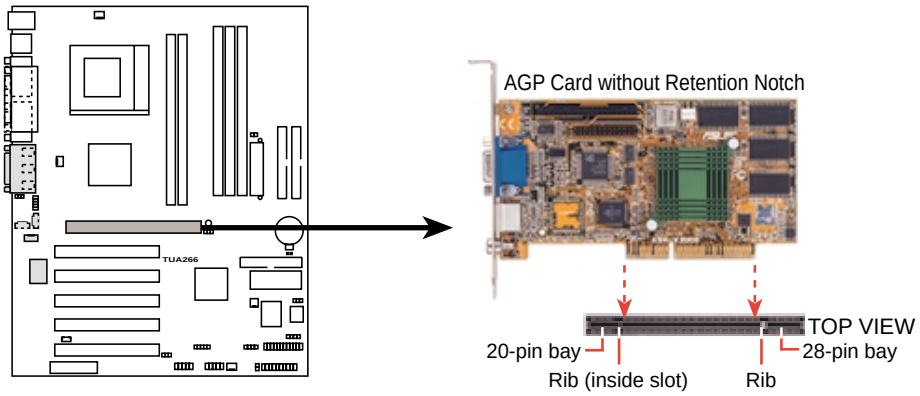
*These IRQs are usually available for ISA or PCI devices.

Interrupt Request Table for this Motherboard

	INT-A	INT-B	INT-C	INT-D	INT-E	INT-F	INT-G	INT-H
PCI slot 1	shared	—	—	—	—	—	—	—
PCI slot 2	—	shared	—	—	—	—	—	—
PCI slot 3	—	—	shared	—	—	—	—	—
PCI slot 4	—	—	—	shared	—	—	—	—
PCI slot 5	—	—	—	—	—	shared	—	—
AGP Pro slot	shared	—	—	—	—	—	—	—
AMR slot	—	—	—	—	—	—	shared	shared
Onboard audio	—	—	—	—	—	shared	—	—
Onboard USB	—	—	—	—	shared	—	—	—

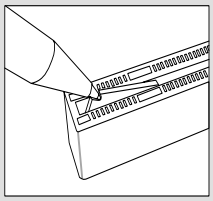
3.7.3 Accelerated Graphics Port (AGP) Pro Slot

This motherboard has an Accelerated Graphics Port (AGP) Pro slot to support the new generation graphics cards with ultra-high memory bandwidth.



TUA266 Accelerated Graphics Port (AGP PRO)

CAUTION! The AGP Pro slot is shipped with a warning label over the 20-pin bay. DO NOT remove this label and the safety tab underneath it if you are using an AGP card *without* a retention notch. Removing may cause the card to shift and may cause damage to the card, slot, and motherboard. Remove the label and tab ONLY if you are using an *AGP Pro* card. Use a rigid tip, such as a pen tip, to dislodge and remove the tab from the bay.

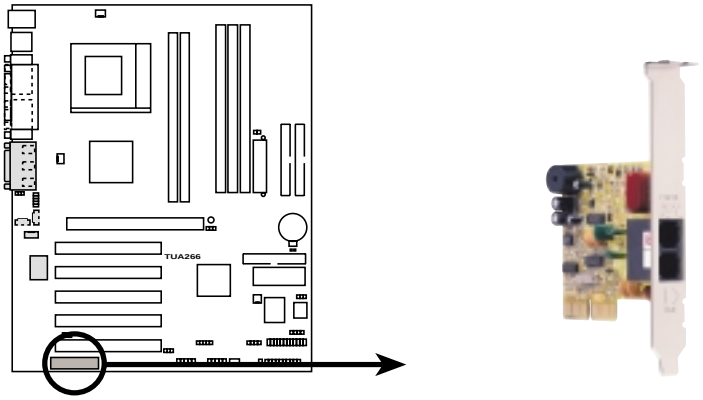


Removing the tab

3.7.4 Audio Modem Riser (AMR)) Slot

The AMR slot support a specially designed audio and/or modem card called an Audio Modem Riser (AMR). Main processing is done through software and controlled by the system chipset. There are two types of AMR, one defined as primary and another defined as secondary. You can only use primary AMRs with this motherboard. (NOTE: The motherboard package does not include the AMR card.)

IMPORTANT! The AMR slot on the motherboard shares the same expansion slot with PCI Slot 5.



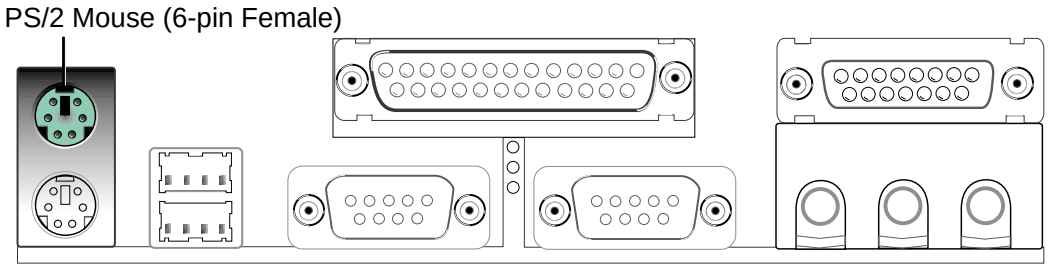
TUA266 Audio Modem Riser (AMR) Slot

3.8 Connectors

3.8.1 External Connectors

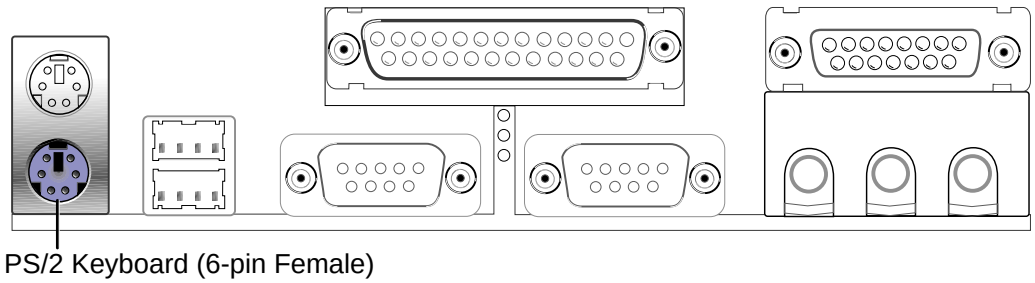
1) PS/2 Mouse Port (Green 6-pin PS2KBMS)

The system automatically directs IRQ12 to the PS/2 mouse if one is detected. If no mouse is detected, IRQ12 become available to expansion cards. See **PS/2 Mouse Function Control** in ***4.4 Advanced Menu.***



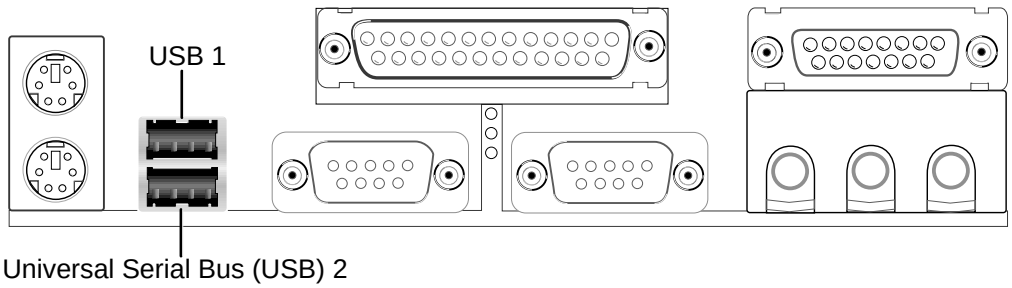
2) PS/2 Keyboard Port (Purple 6-pin PS2KBMS)

This connection is for a standard keyboard using an PS/2 plug (mini DIN). **This connector does not allow standard AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.**



3) Universal Serial Bus Ports 1 & 2 (Black two 4-pin USB)

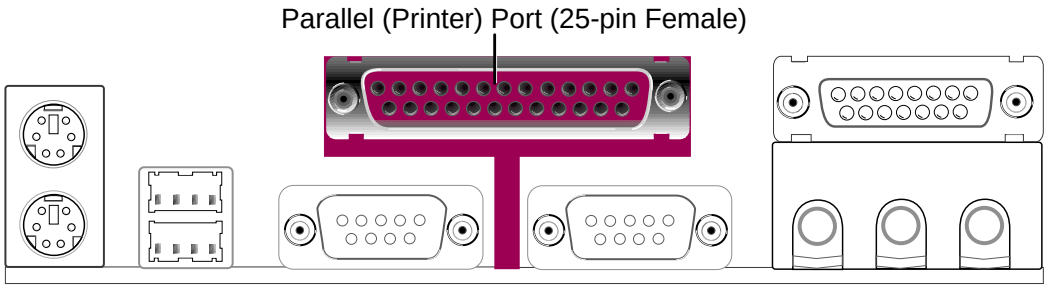
Two USB ports are available for connecting USB devices.



4) Parallel Port (Burgundy 25-pin PRINTER)

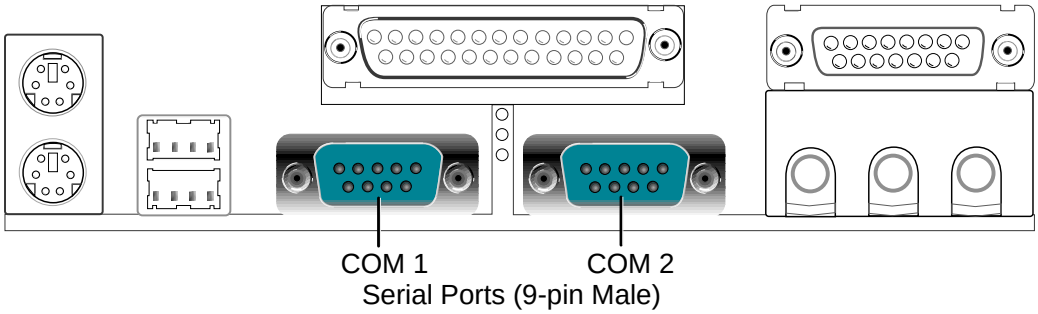
You can enable the parallel port and choose the IRQ through **Onboard Parallel Port** (see ***4.4.2 I/O Device Configuration)***.

NOTE: Serial printers must be connected to the serial port.



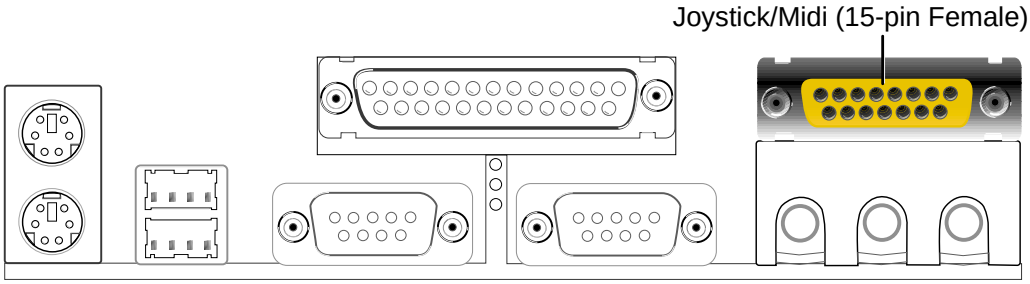
5) Serial Ports (Teal/Turquoise 9-pin COM1 / 9-pin COM2)

Two serial ports can be used for pointing devices or other serial devices. To enable these ports, see **Onboard Serial Port 1 / Onboard Serial Port 2** in ***4.4.2 I/O Device Configuration*** for the settings.



6) Game/MIDI Port (Gold 15-pin GAME_AUDIO) ***(optional)***

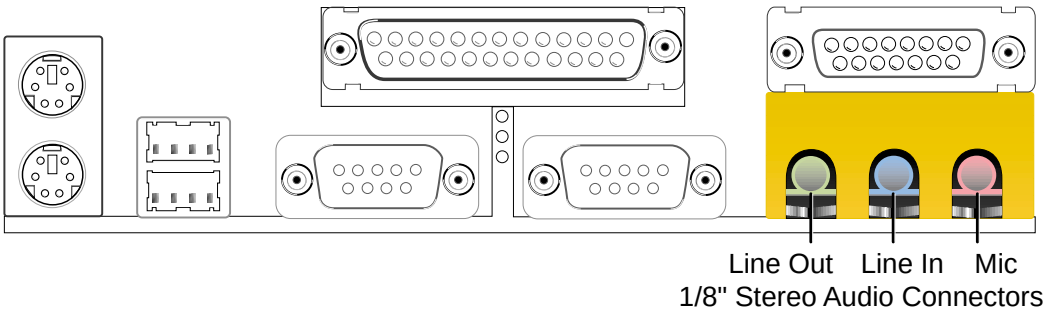
This connector supports a joystick or a game pad for playing games, and MIDI devices for playing or editing audio files.



7) Audio Ports (Three 1/8" AUDIO) ***(optional)***

The **Line Out** (lime) connects a headphone or speakers. The **Line In** (light blue) connects a tape players or other audio sources. The **Mic** (pink) connects a microphone.

NOTE: The functions of the audio connectors Line Out, Line In, and Mic change when the 6-channel audio feature is enabled. Refer to ***Chapter 5. SOFTWARE SETUP***.



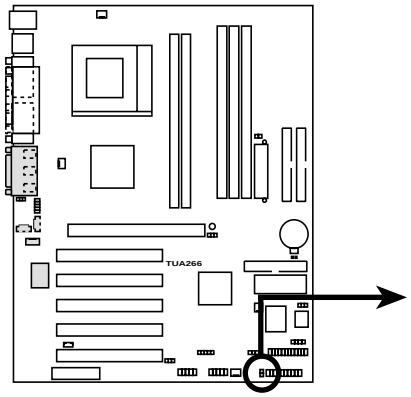
3.8.2 Internal Connectors

WARNING! Some pins are used for connectors or power sources. These are clearly distinguished from jumpers in the Motherboard Layout. Placing jumper caps over these connector pins will cause damage to your motherboard.

IMPORTANT: Always connect ribbon cables with the red stripe to Pin 1 on the connectors. Pin 1 is usually on the side closest to the power connector on hard drives and CD-ROM drives, but may be on the opposite side on floppy disk drives.

1) IDE Activity LED (2-pin IDELED)

This connector supplies power to the cabinet's IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors cause the IDE LED to light up.



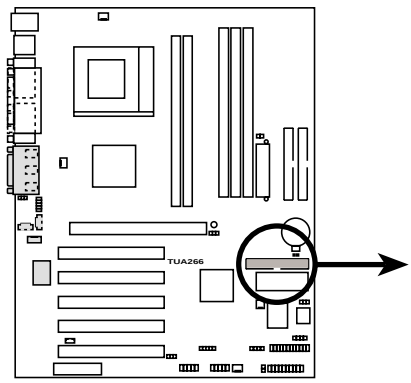
TUA266 IDE Activity LED

IDELED

TIP: If the case-mounted LED does not light, try reversing the 2-pin plug.

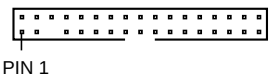
2) Floppy Disk Drive Connector (34-1 pin FLOPPY)

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drives. **(Pin 5 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 5 plugged).**



TUA266 Floppy Disk Drive Connector

NOTE: Orient the red markings on the floppy ribbon cable to PIN 1



3) Primary (Blue) / Secondary IDE Connectors (40-1 pin IDE1/IDE2)

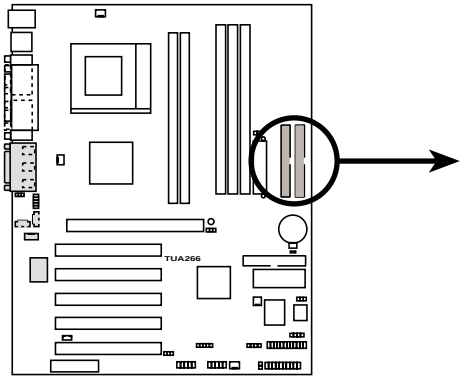
These connectors support the provided UltraDMA/100/66 IDE hard disk ribbon cable. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the UltraDMA/100/66 slave device (hard disk drive) and the black connector to the UltraDMA/100/66 master device. It is recommended that non-UltraDMA/100/66 devices be connected to the secondary IDE connector. If you install two hard disks, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings. BIOS supports specific device bootup (see ***4.6. Boot Menu***). If you have more than two UltraDMA/100/66 devices, purchase another UltraDMA/100/66 cable.

NOTES:

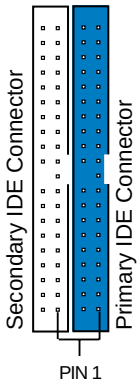
1. Pin 20 on each IDE connector is removed to match the covered hole on the UltraDMA cable connector. This prevents incorrect orientation when you connect the cables.
2. The hole near the blue connector on the UltraDMA/100/66 cable is intentional.

TIP: You may configure two hard disks to be both Masters with two ribbon cables – one for the primary IDE connector and another for the secondary IDE connector.

IMPORTANT: For UltraDMA/100/66 IDE devices,use a 40-pin 80-conductor IDE cable. The UltraDMA/66 cable included in the motherboard package also supports UltraDMA/100.



TUA266 IDE Connectors

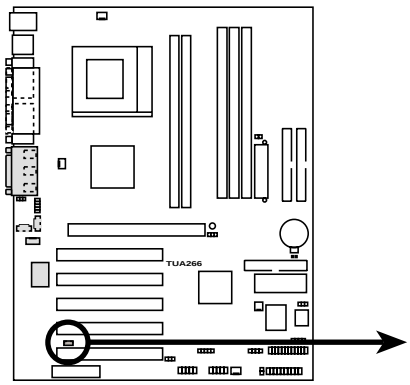


NOTE: Orient the red markings (usually zigzag) on the IDE ribbon cable to PIN 1.

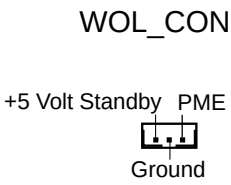
4) Wake-On-LAN Connector (3-pin WOL_CON)

This connector connects to a LAN card with a Wake-On-LAN output, such as the ASUS PCI-L101 Ethernet card (see ***7. Appendix***). The connector powers up the system when a wakeup packet or signal is received through the LAN card.

IMPORTANT: This feature requires that **Wake-On-LAN** features are enabled (see ***4.4.3 Power Management***) and that **y**our system has an ATX power supply with at least 720mA +5V standby power.



IMPORTANT: Requires an ATX power supply with at least 720mA +5 volt standby power.

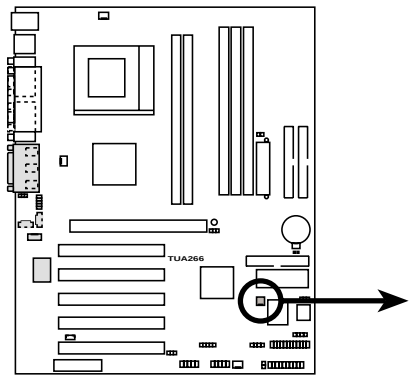


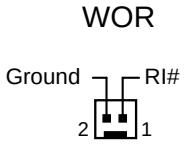
TUA266 Wake-On-LAN Connector

5) Wake-On-Ring Connector (2-pin WOR)

This connector connects to internal modem cards with a Wake-On-Ring output. The connector powers up the system when a ringup packet or signal is received through the internal modem card. **NOTE:** For external modems, Wake-On-Ring is detected through the COM port.

IMPORTANT: This feature requires that **Wake-On-Ring** features are enabled (see ***4.4.3 Power Management***) and that your system has an ATX power supply with at least 720mA +5V standby power.



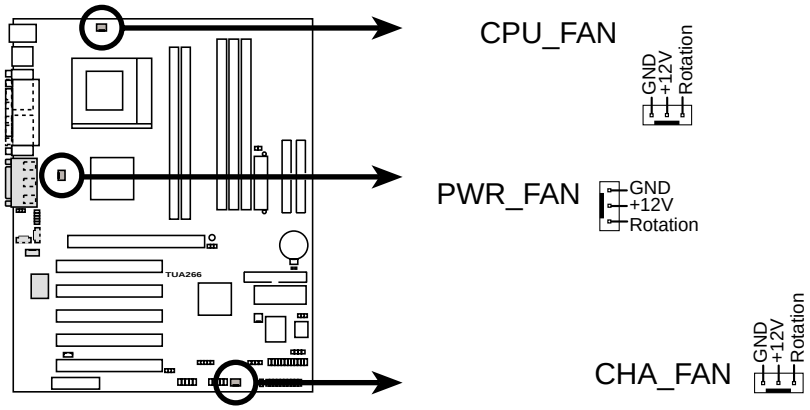


TUA266 Wake-On-Ring Connector

6) CPU Fan, Power Fan, and Chassis Fan Connectors (CPU_FAN, PWR_FAN, CHA_FAN)

The three fan connectors support cooling fans of 350mA (4.2 Watts) or less. Orient the fans so that the heat sink fins allow airflow to go across the onboard heat sinks instead of the expansion slots. The fan wiring and plug may vary depending on the fan manufacturer. Connect the fan cable to the connector making sure that the black wire matches the ground pin. (**NOTE:** Use the "Rotation" signal only with a specially designed fan with a rotation signal. You can monitor the Rotations Per Minute (RPM) using ASUS PC Probe (see ***6. SOFTWARE REFERENCE***).

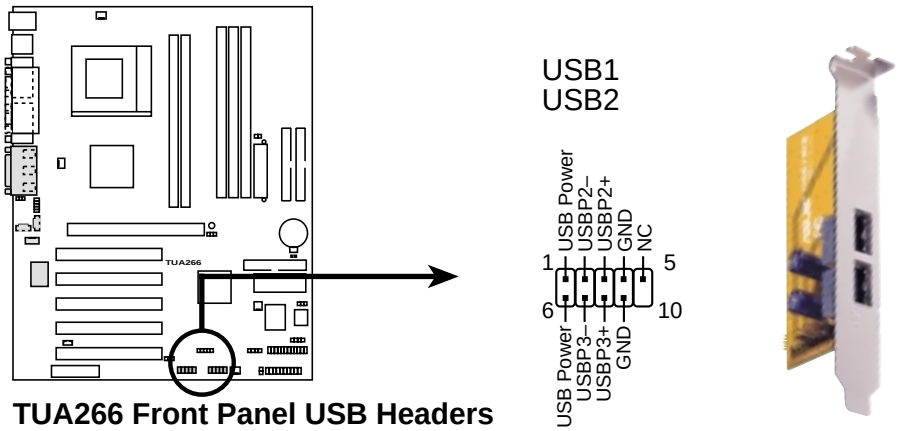
WARNING! Make sure to connect the fan cables to the fan connectors. Lack of sufficient airflow within the system could cause damage to the motherboard. **These are not jumpers, do not place jumper caps over these connectors!**



TUA266 12-Volt Cooling Fan Power

7) USB Headers (10-1 pin USB1, USB2)

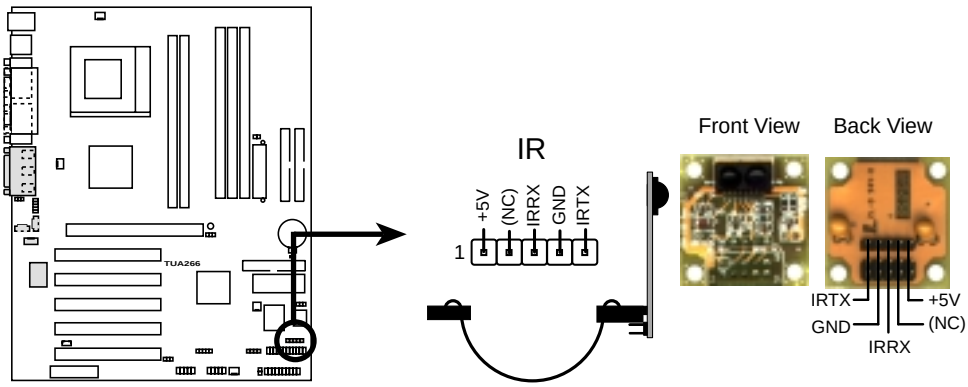
If the USB port connectors on the back panel are inadequate, two USB headers are available for four additional USB port connectors. Connect a 2-port USB connector set to a USB header and mount the USB bracket to an open slot in the chassis.



TUA266 Front Panel USB Headers

8) Infrared Module Connector (5-pin IR)

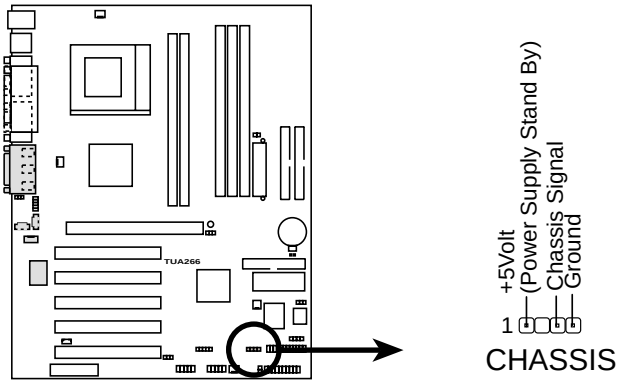
This connector supports an optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. You must also configure the setting through **UART2 Use Infrared** (see ***4.4.2 I/O Device Configuration)*** to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins as shown in Back View and connect a ribbon cable from the module to the motherboard SIR connector according to the pin definitions. (NOTE: The SIR module does not come with the motherboard package. The CIR module is currently not available.)



TUA266 Infrared Module Connector

9) Chassis Open Alarm Lead (4-pin CHASSIS)

This lead is for a chassis designed for chassis intrusion detection. This requires an external detection mechanism such as a chassis intrusion monitor/sensor or microswitch. When any chassis component is removed, the sensor is triggered and a high-level signal is sent to this lead to record a chassis intrusion event.The event is then be processed by software such as LDCM. When not using the chassis intrusion lead, place a jumper cap over the pins to close the circuit.

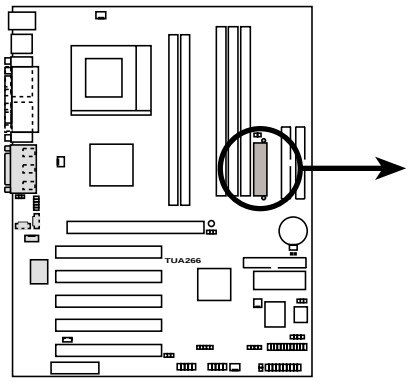


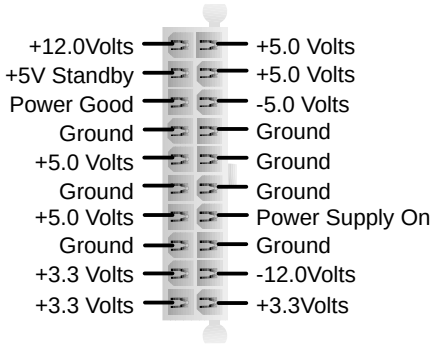
TUA266 Chassis Open Alarm Lead

10) Power Supply Connectors (20-pin block ATXPWR)

This connector connects to an ATX 12V power supply. The plug from the power supply fits in only one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

IMPORTANT: Make sure that the ATX 12V power supply (minimum recommended wattage: 230W) can supply at least 10mA on the +5-volt standby lead (+5VSB). The system may become unstable and may experience difficulty powering up if the power supply is inadequate. For Wake-On-LAN support, the ATX power supply must supply at least 720mA +5VSB.

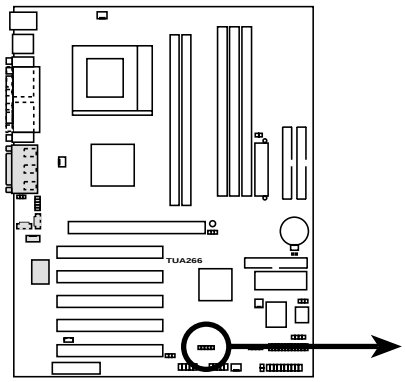


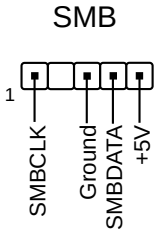


TUA266 ATX Power Connector

11) SMBus Connector (5-1 pin SMB)

This connector allows you to connect SMBus (System Management Bus) devices. SMBus devices communicate by means of the SMBus with an SMBus host and/or other SMBus devices. SMBus is a specific implementation of an I^2C bus, a multi-device bus that allows multiple chips to connect to the same bus and enabling each one to act as a master by initiating data transfer.

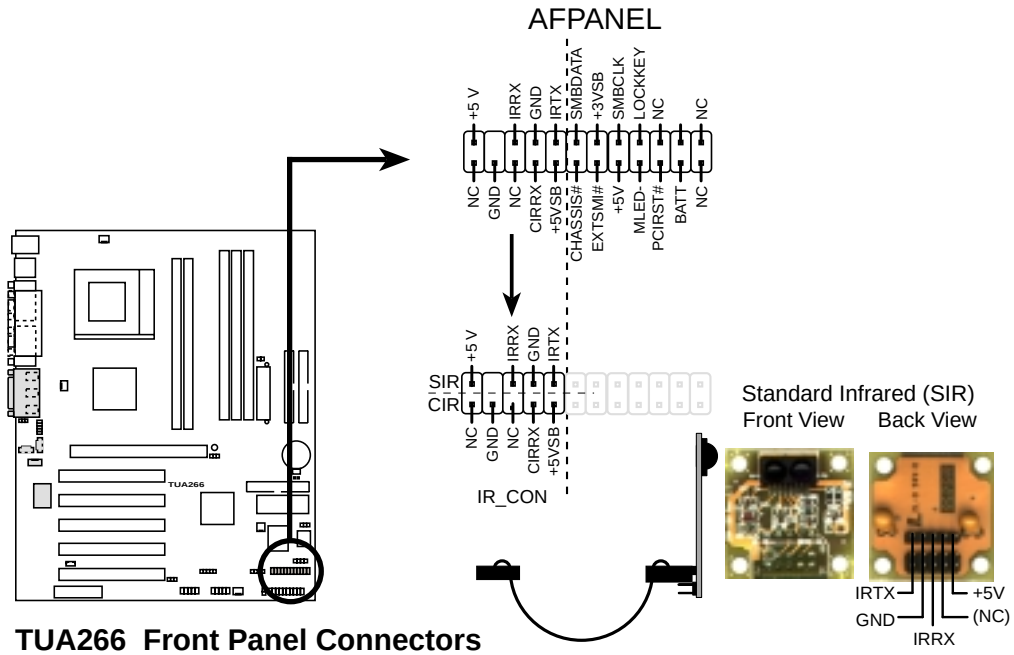




TUA266 SMBus Connector

12) ASUS iPanel Connector (24-1 pin AFPANEL)

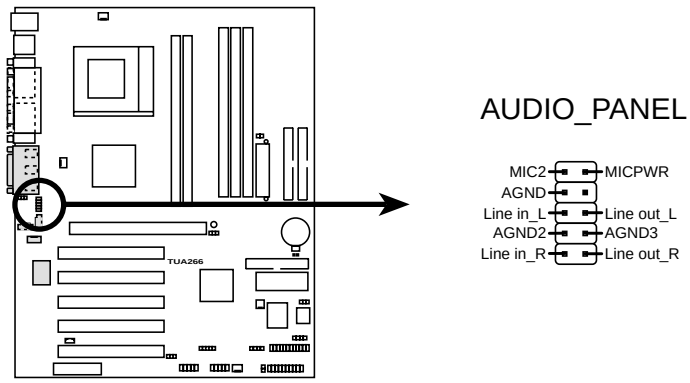
This connector allows you to connect an optional ASUS iPanel, an easy-to access drive bay with front I/O ports and status LEDs. If you are not using an ASUS iPanel, you can connect an optional wireless transmitting and receiving infrared module to the SIR connector.



TUA266 Front Panel Connectors

13) Digital Audio Interfaces (10-pin AUDIO_PANEL) *(optional)*

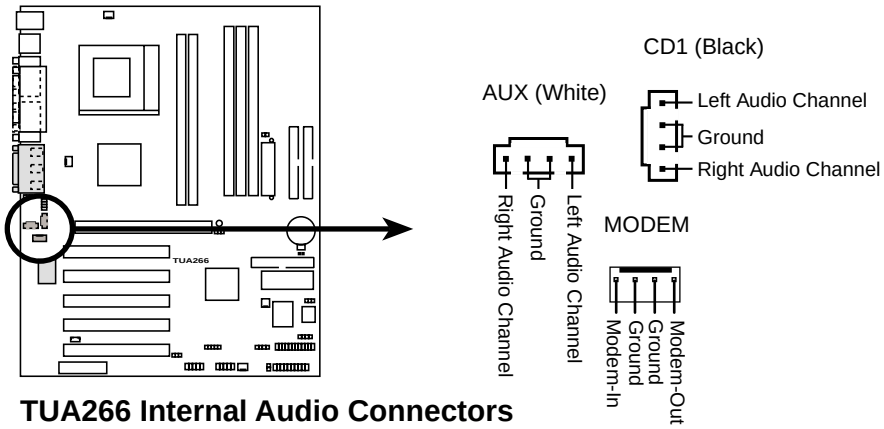
This connector accommodates the optional ASUS iPanel to allow convenient audio control from the front panel.



TUA266 Audio Panel Connector

14) Internal Audio Connectors (4-1 pin CD, AUX, MODEM) ***(optional)***

These connectors allow you to receive stereo audio input from sound sources as a CD-ROM, TV tuner, or MPEG card. The MODEM connector allows the onboard audio to interface with a voice modem card with a similar connector. It also allows the sharing of mono_in (such as a phone) and a mono_out (such as a speaker) between the audio and a voice modem card.

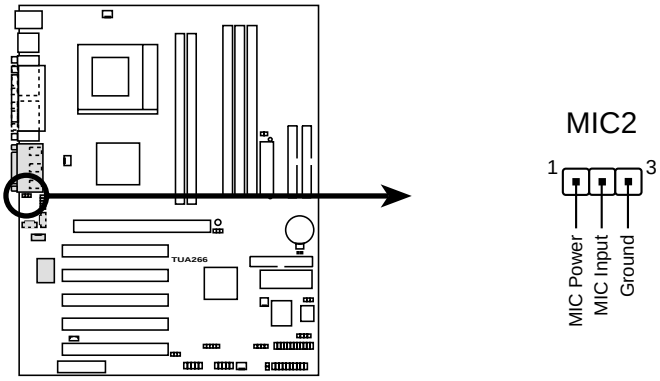


TUA266 Internal Audio Connectors

15) Internal Microphone Connector (3-pin MIC2) ***(optional)***

This connector allows you to connect chassis-mounted microphone to the motherboard instead of connecting an external microphone to the ATX connector.

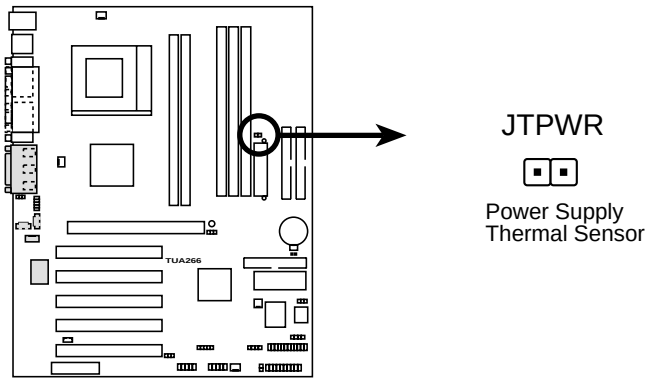
NOTE: The internal microphone does not work if there is an external microphone connected to the external Mic (pink) jack. You may only use one microphone at a time.



TUA266 Internal Microphone Connector

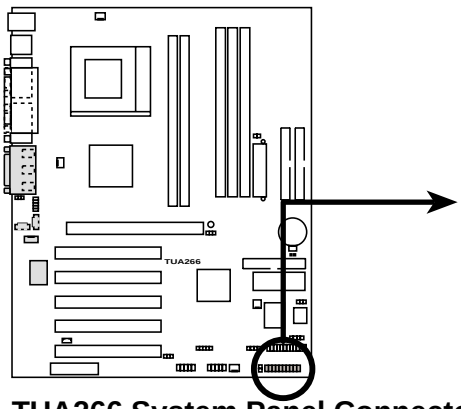
16) Power Supply Thermal Sensor Connector (2-pin JTPWR)

If you have a power supply with thermal monitoring, connect its thermal sensor cable to this connector.



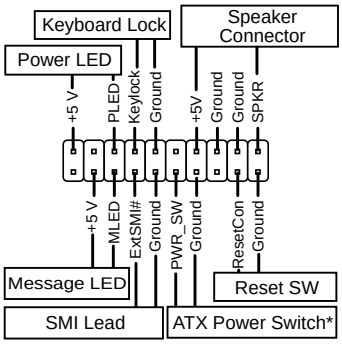
TUA266 Thermal Sensor Connector

The following 20-pin PANEL illustration is for items 17-22.



TUA266 System Panel Connectors

* Requires an ATX power supply.



17) System Power LED Lead (3-1 pin PWR.LED)

This 3-1 pin connector connects to the system power LED. The LED lights up when you turn on the system power, and blinks when the system is in sleep or soft-off mode.

18) System Warning Speaker Lead (4-pin SPEAKER)

This 4-pin connector connects to the case-mounted speaker and allows you to hear system beeps and warnings.

19) System Message LED Lead (2-pin MSG.LED)

This 2-pin connector is for the system message LED that indicates receipt of messages from a fax/modem. The normal status for this LED is ON, when there is no incoming data signal. The LED blinks when data is received. The system message LED feature requires an ACPI OS and driver support.

20) System Management Interrupt Lead (2-pin SMI)

This 2-pin connector allows you to manually place the system into a suspend mode, or "Green" mode, where system activity is instantly decreased to save power and to expand the life of certain system components. Attach the case-mounted suspend switch this 2-pin connector.

21) ATX Power Switch / Soft-Off Switch Lead (2-pin PWR.SW)

The system power is controlled by a momentary switch attached to this connector. Pressing the button switches the system between ON and SLEEP, or ON and SOFT OFF, depending on the BIOS or OS settings. Pressing the button while in the ON mode for more than 4 seconds turns the system off.

22) Reset Switch Lead (2-pin RESET)

This 2-pin connector connects to the case-mounted reset switch for rebooting the system without turning off the power switch. This is a preferred method.

3.9 Starting Up the First Time

1. After making all the connections, replace the system case cover.
2. Be sure that all switches are off (in some systems, marked with ○).
3. Connect the power cord to the power connector at the back of the system chassis.
4. Connect the power cord to a power outlet that is equipped with a surge protector.
5. Turn on the devices in the following order:
   a. Monitor
   b. External SCSI devices (starting with the last device on the chain)
   c. System power (For ATX power supplies, you need to switch on the power supply as well as press the ATX power switch on the front of the chassis.)
6. The power LED on the front panel of the system case lights up. For ATX power supplies, the system LED lights up when you press the ATX power switch. If the monitor complies with "green" standards or if it has a power standby feature,the monitor LED may light up or switch between orange and green after the system LED does. The system then runs the power-on tests. While the tests are running, the BIOS beeps or additional messages appear on the screen. If you do not see anything within 30 seconds from the time you turn on the power, the system may have failed a power-on test. Check the jumper settings and connections or call your retailer for assistance.

Award BIOS Beep Codes

Beep	Meaning
One short beep when displaying logo	No error during POST
Long beeps in an endless loop	No DRAM installed or detected
One long beep followed by three short beeps	Video card not found or video card memory bad
High frequency beeps when system is working	CPU overheated System running at a lower frequency

7. At power on, hold down <Delete> to enter BIOS Setup. Follow the instructions in ***4. BIOS SETUP***.

* **Powering Off the computer:** You must first exit or shut down the system before switching off the power switch. For ATX power supplies, you can press the ATX power switch after exiting or shutting down the operating system. If you use Windows 9X, click the **Start** button, click **Shut Down**, then click **Shut down the computer?** The power supply should turn off after Windows shuts down.
NOTE: The message "You can now safely turn off your computer" does not appear when shutting down with ATX power supplies.

4.1 Managing and Updating Your BIOS

4.1.1 Upon First Use of the Computer System

It is recommended that you save a copy of the original motherboard BIOS along with a Flash Memory Writer utility (AFLASH.EXE) to a bootable floppy disk in case you need to reinstall the BIOS later. **AFLASH.EXE** is a Flash Memory Writer utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the motherboard. This file works only in DOS mode. To determine the BIOS version of your motherboard, check the last four numbers of the code displayed on the upper left-hand corner of your screen during bootup. Larger numbers represent a newer BIOS file.

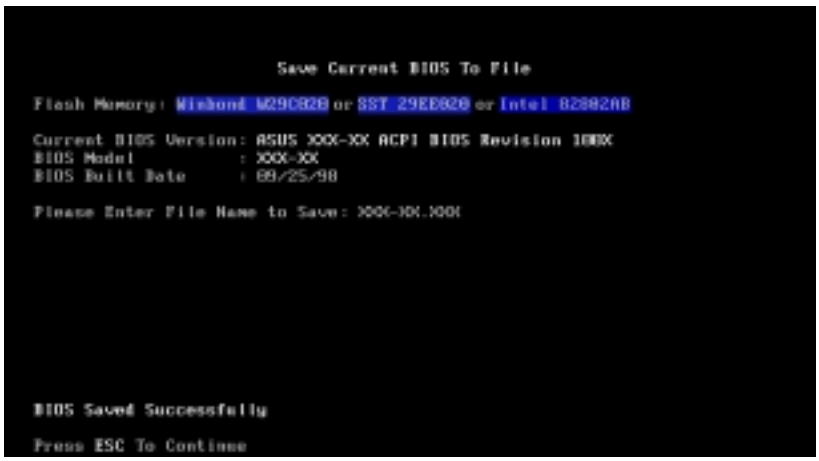
1. Type **FORMAT A:/S** at the DOS prompt to create a bootable system disk. **DO NOT** copy AUTOEXEC.BAT and CONFIG.SYS to the disk.
2. Type **COPY D:\AFLASH\AFLASH.EXE A:** (assuming D is your CD-ROM drive) to copy AFLASH.EXE to the boot disk you created.
   NOTE: AFLASH works only in DOS mode. It does not work in the DOS prompt within Windows and does not work with certain memory drivers that may be loaded when you boot from the hard drive. It is recommended that you reboot using a floppy disk.
3. Reboot the computer from the floppy disk.

   NOTE: BIOS setup must specify "Floppy" as the first item in the boot sequence.
4. In DOS mode, type **A:\AFLASH <Enter>** to run AFLASH.

ASUS ACPI BIOS
FLASH MEMORY WRITER V1.29
Copyright (C) 1994-99, ASUSTeK COMPUTER INC.
Flash Memory: Winbond W29C020 or SST 29EE020 or Intel 82802AB
Current BIOS Version: ASUS XXX-XX ACPI BIOS Revision 100X
BIOS Model : XXX-XX
BIOS Built Date : 09/25/98
Choose one of the followings:
1. Save Current BIOS To File
2. Update BIOS Including Boot Block and ESCD
Enter choice: [1]
Press ESC To Exit

IMPORTANT! If the word "unknown" appears after **Flash Memory:,** the memory chip is either not programmable or is not supported by the ACPI BIOS and therefore, cannot be programmed by the Flash Memory Writer utility.

5. Select **1. Save Current BIOS to File** from the Main menu and press <Enter>. The **Save Current BIOS To File** screen appears.

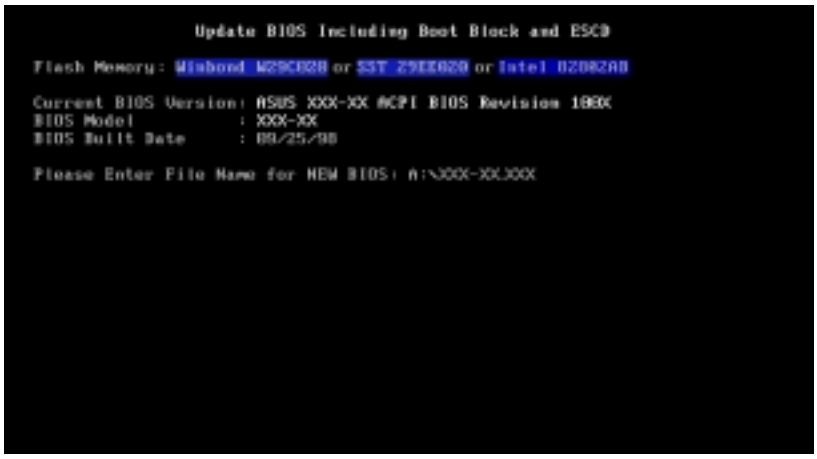

Save Current BIOS To File
Flash Memory: Winbond W29C020 or SST 29EE020 or Intel 82802AB
Current BIOS Version: ASUS XXX-XX ACPI BIOS Revision 1XXX
BIOS Model : XXX-XX
BIOS Built Date : 08/25/98
Please Enter File Name to Save: XXX-XX.XXX
BIOS Saved Successfully
Press ESC To Continue

6. Type a filename and the path, for example, **A:\XXX-XX.XXX** and then press <Enter>.

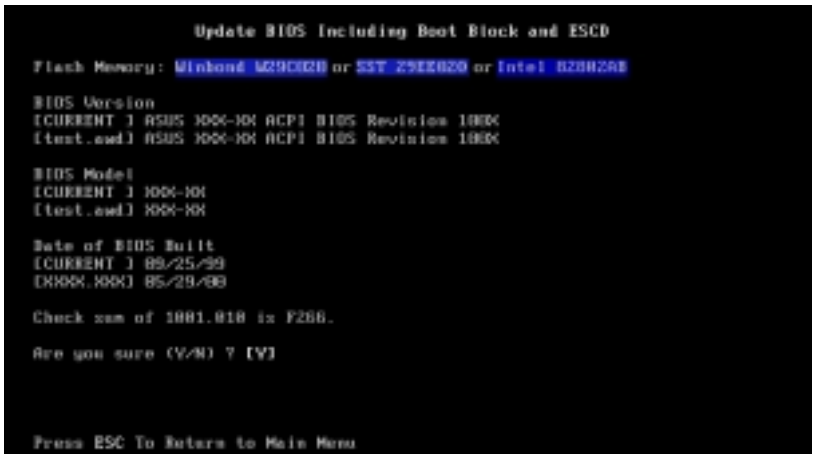
4.1.2 Updating BIOS Procedures

WARNING! Update the BIOS only if you have problems with the motherboard and you know that the new BIOS revision will solve your problems. Careless updating can result in your motherboard having more problems!

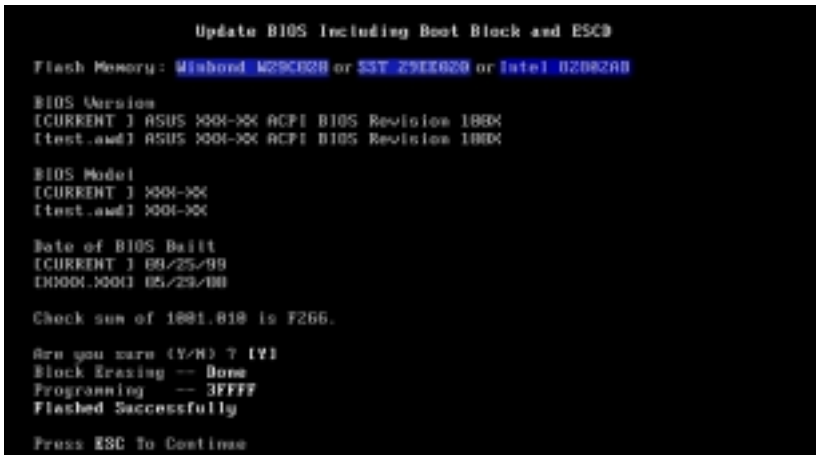
1. Download an updated ASUS BIOS file from the Internet (WWW or FTP) (see ASUS CONTACT INFORMATION on page 3 for details) and save to the boot floppy disk you created earlier.
2. Boot from the floppy disk.
3. At the "A:\" prompt, type **AFLASH** and then press <Enter>.
4. At the **Main Menu**, type **2** then press <Enter>. The **Update BIOS Including Boot Block and ESCD** screen appears.
5. Type the filename of your new BIOS and the path, for example, **A:\XXX-XX.XXX**, then press <Enter>.
   NOTE: To cancel this operation, press <Enter>.


Update BIOS Including Boot Block and ESCD
Flash Memory: Winbond W29C020 or SST 29EE020 or Intel 82802AB
Current BIOS Version: ASUS XXX-XX ACPI BIOS Revision 100X
BIOS Model : XXX-XX
BIOS Built Date : 09/25/98
Please Enter File Name for NEW BIOS: A:\XXX-XX.XXX

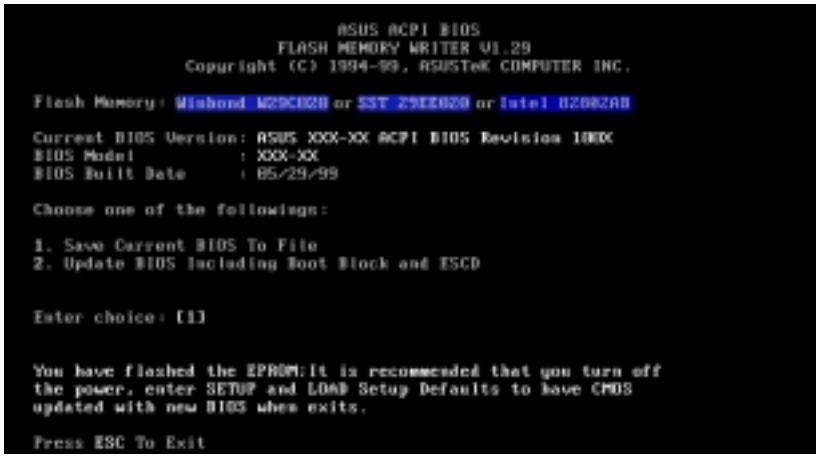
6. When prompted to confirm the BIOS update, press **Y** to start the update.


Update BIOS Including Boot Block and ESCD
Flash Memory: Winbond W29C020 or SST 29EE020 or Intel 82802AB
BIOS Version
[CURRENT] ASUS XXX-XX ACPI BIOS Revision 100X
[test.awd] ASUS XXX-XX ACPI BIOS Revision 100X
BIOS Model
[CURRENT] XXX-XX
[test.awd] XXX-XX
Date of BIOS Built
[CURRENT] 09/25/99
[XXXX.XXX] 05/29/00
Check sum of 1001.010 is F266.
Are you sure (Y/N) ? [Y]
Press ESC To Return to Main Menu

7. The utility starts to program the new BIOS information into the Flash ROM. The boot block is updated automatically only when necessary. This minimizes the possibilities of boot problems in case of update failures. When the programming is done, *Flashed Successfully* appears.


Update BIOS Including Boot Block and ESCD
Flash Memory: Winbond W29C020 or SST 29EE020 or Intel 82802AB
BIOS Version
[CURRENT] ASUS XXX-XX ACPI BIOS Revision 100X
[test.awd] ASUS XXX-XX ACPI BIOS Revision 100X
BIOS Model
[CURRENT] XXX-XX
[test.awd] XXX-XX
Date of BIOS Built
[CURRENT] 08/25/99
[XXXX.XXX] 05/29/100
Check sum of 1001.010 is F266.
Are you sure (Y/N) ? [Y]
Block Erasing -- Done
Programming -- 3FFFF
Flashed Successfully
Press ESC to Continue

8. Follow the onscreen instructions to continue.


ASUS ACPI BIOS
FLASH MEMORY WRITER V1.29
Copyright (C) 1994-99, ASUSTeK COMPUTER INC.
Flash Memory: Winbond W29C020 or SST 29EE020 or Intel 82802AB
Current BIOS Version: ASUS XXX-XX ACPI BIOS Revision 100X
BIOS Model : XXX-XX
BIOS Built Date : 05/29/99
Choose one of the followings:
1. Save Current BIOS To File
2. Update BIOS Including Boot Block and ESCD
Enter choice: [1]
You have flashed the EPROM!It is recommended that you turn off the power, enter SETUP and LOAD Setup Defaults to have CMOS updated with new BIOS when exits.
Press ESC To Exit

WARNING! If you encounter problems while updating the new BIOS, DO NOT turn off the system because this may cause boot problems. Just repeat the process, and if the problem still persists, load the original BIOS file you saved to the boot disk. If the Flash Memory Writer utility is not able to successfully update a complete BIOS file, the system may not boot. If this happens, call the ASUS service center for support.

4.2 BIOS Setup Program

This motherboard supports a programmable EEPROM that you can update using the provided utility described in ***4.1 Managing and Updating Your BIOS***.

The utility is used if you are installing a motherboard, reconfiguring your system, or prompted to "**Run Setup**". This section describes how to configure your system using this utility.

Even if you are not prompted to use the Setup program, at some time in the future you may want to change the configuration of your computer. For example, you may want to enable the Security Password Feature or make changes to the power management settings. It will then be necessary to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the EEPROM.

The EEPROM on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. This appears during the Power-On Self Test (POST). Press <Delete> to call up the Setup utility. If you are a little bit late in pressing the mentioned key, POST will continue with its test routines, thus preventing you from calling up Setup. If you still need to call Setup, restart the system by pressing <Ctrl> + <Alt> + <Delete>, or by pressing the Reset button on the system chassis. You can also restart by turning the system off and then back on again. But do so only if the first two methods fail.

The Setup program has been designed to make it as easy to use as possible. It is a menu-driven program, which means you can scroll through the various sub-menus and make your selections among the predetermined choices.

To access the BIOS Setup program, press the <Delete> key after the computer has run through its POST.

NOTE: Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purposes only, and may not exactly match what you see on your screen.